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Datasheet for KNA-101

ModDetect® Phosphorothioate Biotin Panel

Overview

Description:	ModDetect® Phosphorothioate Biotinylated Panel - KNA-101
Item No.:	KNA-101
Size:	1 Set
Applications:	ELISA

Product Details

Synonyms:	Phosphorothioate, PS, ASO, anti-sense oligonucleotide
Conjugate:	Biotin
Detection Kit Type:	Combo Pack

Application Details

Tested Applications:	ELISA
Application Note:	The set includes five ModDetect® phosphorothioate biotin labeled detection reagents [clone PS03 (200-306-MU9S), clone PS04 (200-306-MV0S), clone PS05 (200-306-MV1S), clone PS07 (200-306-MW0S), and clone PS09 (200-306-MW3S)] each supplied as a 25 µL aliquot at approximately 1.0 mg/mL, curated by binding characteristics, and three reporter molecules labeled with peroxidase (S000-03S), 488 λ fluorophore (S000-41) and 649 λ fluorophore (S000-43) each supplied as 100µg. The different binding characteristics create opportunities to generate highly optimized immunoassays independent of oligonucleotide sequence, as opposed to spending significant efforts to optimize assays to underperforming reagents. Designed for use in various immunoassays, such as ELISA, IF, and IHC. NOTE: Panel detection reagents components are provided in a 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride buffer, pH 7.2. This buffer contains 0.01 % Sodium Azide as a preservative and 10 mg/mL carrier protein as a stabilizing reagent.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	User Optimized
IF:	User Optimized

IHC:	User Optimized

Formulation

Physical State:	Liquid and Lyophilized
Concentration:	None

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Please see product page for complete product description. Store five phosphorothioate vials at -20°C or below prior to opening. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing. Store three reporter molecule vials at 4°C or -20°C prior to restoration. For extended storage aliquot contents and freeze at -20°C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4°C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Kit Box
The ModDetect® Phosphorothioate Biotinylated Panel includes the following components: five biotin labeled ModDetect® phosphorothioate detection reagents PS03, PS04, PS05, PS07, PS09, and three reporter molecules labeled with peroxidase, 488 λ fluorophore and 649 λ fluorophore.

ELISA

ELISA profiles of 9 Unconjugated ModDetect® Phosphorothioate Detection reagents reactive to control oligonucleotides. Fully PS-modified positive control ASOs were used to show differential sensitivity and specificity of ModDetect® Phosphorothioate clones selected for validation. Clones were not reactive with the same sequence synthesized with PO backbones (data not shown). Each well was coated in duplicate with 5 µg/mL of BSA-oligo conjugate. The starting dilution of antibody was 5 µg/mL and the X-axis represents the Log10 of a 3-fold dilution. This titration is a 4-parameter curve fit where the IC50 is defined as the titer of the antibody. Assay performed using 3% fish gel, Mouse IgG (gamma 1, 2a, 2b and 3 chain) Antibody Peroxidase Conjugated (p/n 610-403-C46) and TMB ELISA Peroxidase Substrate (p/n TMBE-1000).

References

- Chimento DP et al. Bioanalytical Assays for Oligonucleotide Therapeutics: Adding Antibody-Based Immunoassays to the Toolbox as an Orthogonal Approach to LC-MS/MS and Ligand Binding Assays. *Nucleic Acid Ther.* (2025)
- Fial I et al. Characterizing Antibodies Targeting Antisense Oligonucleotide Phosphorothioate and 2'- O-Methoxyethyl Modifications for Intracellular Trafficking and Biodistribution Studies. *Nucleic Acid Ther.* (2025)
- Kashyap D et al. Harnessing BET-Bromodomain Assisted Nuclear Import for Targeted Subcellular Localization and Enhanced Efficacy of Antisense Oligonucleotides. *J Am Chem Soc.* (2025)

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